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U.S. DEPARTMENT OF COMMERCE
FEDERAL COMMUNICATIONS COMMISSION
OFFICE SECRETARY

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COMMENTS OF

AMERICA'S CARRIERS
TELECOMMUNICATION ASSOCIATION
("ACTA")

Initial Comments: May 8, 1996

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I. EXECUTIVE SUMMARY

America's Carriers Telecommunication Association ("ACTA") welcomes the advent of a new age in the telecommunications industry. Exciting new technologies combined with the opening of competition under the Telecommunications Act of 1996 ("1996 Act") have brought profound changes to an already dynamic telecommunications industry and market. The Internet is perhaps the most exciting development in communications since the invention of the telephone itself. The Internet's explosive growth and the convergence of voice, video and data over this medium present undefined possibilities which will shape communications well into the next century.

ACTA embraces the emergence of technologies which provide the ability to place telephone calls over the Internet. Internet telephony offers an alternative to plain old telephone service which, when combined with Internet video and data services, will provide cutting edge interactive communications capabilities. At the same time, ACTA maintains that Internet telephony is a basic telecommunications services, albeit offered over a different medium, which necessitates the exercise of the Commission's regulatory powers.

The purpose of ACTA's initial comments is to ask the Commission to consider the following: 1) Internet telephony service is identical to the services provided by "telecommunications service providers" as defined by the 1996 Act; 2) unregulated Internet phone companies do not contribute to universal service (which provides funding of phone service to low income and rural areas) or to the maintenance of telecommunications highways; and 3) the anticipated high volume of unregulated calls to be funneled over the Internet will burden both

the Internet and the traditional telephone infrastructure.

Section II of ACTA's comments provides an overview of the Internet's history, a description of Internet telephony services and an update on developments in Internet telephony since ACTA filed its petition. ACTA highlights recent announcements of online Internet telephony service offerings from AT&T, Microsoft, Netscape and other large companies. Likewise, ACTA points to ongoing restructuring in the telecommunications market which supports ACTA's contention that Internet telephony is a viable alternative to plain old telephone service.

Section III of ACTA's comments presents the legal precedents on which the foundation of ACTA's petition rests. ACTA maintains that Internet Telephony Service Providers ("ITSPs"), by holding themselves out as providers of long distance telephone service, are "telecommunications service providers" under the Telecommunications Act of 1996. Additionally, the Commission has regulated for decades the basic technology used to provide voice over the Internet ("packet switching") and regulated the provision of plain old voice service using such technology as a "basic" transmission service.

ACTA contends that the enhanced services exception from regulation has never been granted in perpetuity and may be modified when such services substantially affect the efficient provision of reasonably priced communications services. Commission policy provides that enhanced services must be regulated to protect efficient telephone service to the public by eliminating the possibility of a diversion of common carrier facilities to other purposes.

ACTA suggests that, as telecommunications service providers, ITSPs should contribute to universal service. Internet telephony (and non-voice Internet traffic) burdens the traditional

telephone infrastructure. Indeed, anticipated Internet voice traffic would magnify existing congestion and threatens the Internet infrastructure (as well as the traditional telephone infrastructure) with unacceptable transmission delays and brownouts. Accordingly, ITSPs should bear their fair share of universal service contributions in order to maintain the telecommunications infrastructure and to ensure the provision of advanced telecommunications services to all Americans.

II. BACKGROUND¹

A. DEVELOPMENT OF THE INTERNET

The Internet was created in the 1960's as a decentralized, packet-switched network intended to facilitate communication in the United States in the aftermath of a nuclear attack. The Department of Defense, Advanced Research Projects Agency, funded the first such network named "ARPANET." ARPANET consisted of four nodes each capable of originating, passing and receiving messages. Communication protocols were established in order to allow the nodes to communicate. Today these protocols are known as Transmission Control Protocol ("TCP") and Internet Protocol ("IP")(collectively "TCP/IP"). TCP converts messages into packets which are transmitted individually along the network and reassembled at their destination node. IP places an "address" on each packet thereby facilitating routing throughout the network.

In the late 1970's, non-government entities, primarily universities, began linking with

¹ ACTA recognizes that many commentators and the FCC are fully informed on the background and development of today's Internet. However, ACTA desires that the record of this proceeding contain some explanation of the pertinent background and development of the Internet, particularly as they relate to specific legal, regulatory and policy issues that are raised by ACTA's petition.

ARPANET through TCP/IP transforming the Internet into perhaps the earliest version of a “network of networks.” In 1984, the National Science Foundation (“NSF”) initiated the funding to establish a nationwide transmission communications transport backbone system (“NSFNET”) with the intent of expanding this network infrastructure. In 1987, NSF and Merit, Inc. collaborated with IBM and MCI Telecommunications Corp. to re-engineer and redesign the NSFNET backbone. Within two years, NSFNET consisted of 13 nodes and 19 internodal routes linking several mid-level networks and supercomputer sites. Eventually, NSFNET supplanted ARPANET in 1990.

Shortly thereafter, commercial networks operators (e.g., MCI and Sprint) and some early Internet access companies (UUNet and Performance Systems International (“PSI”)) began taking over NSFNET. By building public demand for access, these companies began the “reformulation” of NSFNET into today’s Internet. At this time, the Federal Government began phasing out NSF funding of the backbone system, which was largely funded by taxpayer dollars and private contributions from the academic community. In 1995, NSFNET was turned off. However, tax payer-supported NSF funding will continue through 1998. Hence, despite its origin and maintenance as a taxpayer created facility, the Internet is now a network of components owned by different commercial enterprises, which continues to be partially subsidized by taxpayer dollars.²

In addition, what was designed as a network to implement and develop a new form of

² The Commission is urged not to lose site of the relevancy of the taxpayer supported origins and today’s continued subsidy of the Internet by tax dollars in performing its public interest analysis of the issues raised in this proceeding.

transmission of data communications for military and other governmental purposes, which was later to be expanded by the academic world to facilitate private research, has been once again reformulated into a specialized commercial data communications network over which computer literate individuals can access for a ever-widening range of personal communications purposes. Today, the Internet allows these “cybernavts” to learn and/or purchase a wide array of information, consumer goods and services ranging from the beneficial and mundane (groceries, clothing, home appliances, airline tickets, books, perfume) to the bizarre and even dangerous (gambling, focused harassment of public officials³ to instructions on how to make pipe bombs). Cybernavts can now conduct financial transactions over the Internet including banking, credit card transactions and stock purchases. Internet commerce has been projected to reach \$220 billion dollars by the year 2000.⁴ As of January 1996, over 37 million persons over the age of 16 in the U.S. and Canada had access to the Internet.⁵ Approximately 9.5 million hosts -- computers with an Internet address -- comprise the Internet network.⁶

B. TELEPHONY SERVICES OVER THE INTERNET

Recently developed software products have made the transmission of telecommunications

³ See Exhibit 2; Time, April 1, 1996, at 53.

⁴ Report on Electronic Commerce, March 5, 1996, at 14.

⁵ Network Wizards, www.nw.org. ACTA recognizes the popularity of the Internet and applauds that interest. But the Commission’s duties are broader than catering to a large and vociferous group of users. The large number of potential cybernavts using the Internet for commerce, academic research, telemedicine, personal diversion, hobbies and idle interest (whether benign or malevolent) must be contrasted with over 200 million Americans without access to the Internet and a large segment of those who will not be able to afford such access for the foreseeable future.

⁶ Open Market, Inc. Internet Index, www.openmarket.com.

messages over the Internet possible.⁷ Internet telephony software allows users to place full duplex real-time calls over the Internet. A telephone call over the Internet requires five components: 1) a sound wave to analog signal converter similar to the standard telephone; 2) a computer equipped with a sound card, speakers and microphone serves this purpose; 3) an analogue to digital converter; and 4) a digital compressor. ITSPs offer telephony software which performs the functions of items 3 and 4. The software samples the analog wave, digitizes it and compresses the digital stream. The final necessary component is a packetizer which breaks the data stream into packets that are transmitted over the network. Additionally, each packet needs an “addresses” affixed to it in order to facilitate routing. TCP/IP performs these functions.⁸

The quality of Internet calls depends on a variety of factors. The routing of packets and the bandwidth capacity of the lines over which packets travel dictate, to a large degree, transmission quality.⁹ Packet routing is initiated through TCP/IP which sends packets along different paths to the called party. En route, a packet is received by a router which reads the packet’s address and sends it to another router. The choice of path depends upon the individual router’s logic and may not be the same for subsequent data packets. Eventually, after traveling through many routers (often along an indirect route), a data packet reaches the called party. Due to routing over multiple paths, packets can arrive in a different order from that of the original

⁷ See Exhibit 1.

⁸ When the caller or called party has Internet access through standard copper telephone wires, a modem is required to convert the analog signal into digital and vice versa.

⁹ A traditional telephone call is transmitted over an exclusive connection via an established end-to-end path.

message. Upon receiving the data packets, the called party's computer reassembles the original message. Missing or delayed packets must be re-transmitted or forgone.¹⁰ Additionally, packets can be denied access, at least temporarily, to various routers due to network congestion. Thus, the transmission rate depends upon the speed of each part of the transmission path which, in turn, is a function of the volume of local Internet traffic and underlying transmission speed.

Calls placed by Internet users having "dial-up" Internet access are transmitted initially over standard copper telephone wires via the local exchange company's ("LEC") exchange network. If the called party has dial-up Internet access, the call is terminated via the same or another LEC's local exchange network lines which connects the called party with his/her Internet access provider. Thus, the traditional local exchange networks are the first and last leg in the packet switched network.

Since traditional copper wires can accommodate only an analog signal, an Internet call requires multiple conversions between analogue and digital. First, Internet telephony software digitizes the analog signal and compresses the digitized data. Second, the modem converts the digital signal back to analogue in order to facilitate transmission across the copper wires. The analog signal is received by the Internet access provider whose modem reconverts the analogue signal to digital and sends it over the Internet to the called party. On the called party's end, this conversion process is reversed. Thus, one of the limiting factors in Internet telephony (as well as traditional telephony) is the copper wire plant of the local networks themselves.

¹⁰ In the case of telephony software, missing data packets are usually forgone because re-transmission might result in an unacceptable degree of latency. Thus, the sometimes "choppy" quality of Internet calls is attributable to missing or delayed packets which are not present in the reassembled message.

Although routing architecture and transmission capacity can impede the transmission of “telephone quality” calls over the Internet, Internet telephony is not necessarily inferior to traditional telephony. Indeed, the quality of an Internet call can exceed, in quality, a call made over the traditional telephone network. A call made between users of ISDN or T1 connections produces higher speed and better voice quality. Additionally, improvements in compression technology and increasing Internet bandwidth will likely improve the quality of voice transmission over the Internet in the near future.¹¹ Likewise, the offering of Internet access by cable companies (as is the case in several test cities) will facilitate high quality Internet telephony.

C. DEVELOPMENTS IN INTERNET TELEPHONY SINCE ACTA FILED ITS PETITION

Profound developments in Internet telephony have occurred or have been announced since ACTA filed its petition on March 4, 1996. Although ACTA’s original petition named only a handful of Internet telephony software producers as offering telecommunications services in contravention of fundamental Commission policies, recent announcements from the following companies have changed the very complexion of the debate and, in no small measure, the topography of the competitive playing field:

- Netscape Inc., who controls more than 3/4 of the Web browser market, announced that it would integrate Internet telephony into its Web

¹¹ See Exhibit 1, *AT&T Into Net Phones?*; *MCI Announces Beefed-Up Internet Offering*, Telecommunications Reports, March 25, 1996, at 8.

browser;¹²

- Microsoft Corp., who controls approximately 1/4 of the Web browser market, announced that it would integrate Internet telephony into its Web browser;¹³
- AT&T announced that it will offer Internet telephony service and will “develop Internet telephony products that [will] raise the level of sound quality and reliability of such services from what is currently offered” and will offer five hours of “free” Internet access;¹⁴
- America Online, an Internet access and service provider, began offering Internet telephony software products as part of their online services;¹⁵
- PSI Net, an Internet access and service provider, began offering Internet telephony software products as part of their online services.¹⁶

In addition to Internet telephony service offerings, recent developments in the

¹² See Exhibit 1.

¹³ See Exhibit 1, *Netscape Helps Make Talk Cheap*, San Francisco Chronicle, April 27, 1996, at A1.

¹⁴ See Exhibit 1, Investor Business Daily, April 8, 1996, at A8. In an odd, but all too typical manner, an AT&T officer expressed disagreement with ACTA’s petition, on the basis of its support for any new advances in technology (obviously referring to AT&T’s enforced competitive posture in the post-Hush-a-Phone, post-Carterphone, post-FCC Part 68, etc. environment). When asked about the revenue inroads Internet telephony could make on AT&T’s own long distance service, this official brushed off the matter with the statement that “if anybody’s going to cannibalize our revenue, it’s going to be us. . . .” For ACTA, such statements raise another concern: the potential of AT&T (and other entities with monopoly or near monopoly generated profits) to subsidize Internet access using predatory means in order to control and dominate the market.

¹⁵ See Exhibit 1, *Freebie Heebie-Jeebies*, Washington Post, March 8, 1996, at F2.

¹⁶ Id.

telecommunications industry buttress ACTA's contention that Internet telephony is a viable alternative to traditional telephone service. Principal among these are the following:

- Intel Corp. and Microsoft Corp., with support from more than 100 leading companies, announced a platform to make industry standards-based voice, video and data communications over the Internet "as commonplace as a simple telephone call."¹⁷
- UUnet Technologies Inc., an Internet access provider, merged with MFS Communications Co. which operates fiber-optic networks in major U.S. cities in competition with local phone companies. UUnet's chief executive officer noted, "[t]his is an offensive, move, not a defensive one . . . [w]e are creating a new kind of telephone company."¹⁸ The merger of this large Internet access provider with a fiber-optic network operator will allow UUnet to avoid "pay[ing] all that money to the local phone companies in those cities."¹⁹
- Cable companies are test marketing cable modems which facilitate high speed Internet access and interactivity,²⁰ and
- ITSPs continue to advertize "free phone service" and "free long distance" (e.g., VocalTec markets "Free Long Distance - Use your PC to Phone Anywhere") to the general public.²¹

¹⁷ See Exhibit 2; Network World, March 18, 1996, at 1.

¹⁸ See Exhibit 2, Washington Post, May 1, 1996. at F1.

¹⁹ Id.

²⁰ Wall Street Journal, April 18, 1996, at B1.

²¹ See Exhibit 1.

These announcements of Internet telephony service offerings from AT&T, Microsoft, Netscape, America Online, PSI Net and others, combined with mergers, restructuring and the entrance of telephone companies into the Internet services market, plainly shows that Internet telephony is not only rapidly accelerating its capability to become a viable alternative to plain old telephone service, but is poised to explode on the telecommunications market.²²

D. THE INTERNET OF THE FUTURE

One view of the potential technological revolution that Internet telephony harbingers was presented in a recent article by a company specializing in strategic analysis of the telecommunications and information industries. This view of the future holds that the circuit switched technology of today's networks are rapidly becoming dinosaurs, and new entrants are ready to change the landscape of telecommunications with "server-based networks."²³

"Servers" are defined as fault tolerant computers with operating system software which permits a "massive infusion of applications into the network, since carriers would no longer be bound to traditional switch manufacturers' software schedule[s]." ²⁴ The article goes on to

²² ACTA recognizes that these developments are rightfully viewed, in part, as normal products of a competitive marketplace. Based on such a view, application of traditional regulatory approaches will not be favored to the extent that doing so will be viewed as unnecessary interference with marketplace forces. ACTA's petition does not seek to interfere with developments in the industry to the extent that such developments are incorporated in a way that is not inimical to the public interest. One important public interest is the promotion and maintenance of effective competition and resale services. Such public interests cannot be preserved and enhanced by a regulatory ostrich-like approach to the unfair competitive advantages Internet telephone currently enjoys.

²³ X-CHANGE, *The Storm Ahead*, March-April 1996, at 27.

²⁴ Unfortunately, the author did not indicate how this would happen. Perhaps in initial or reply comments other parties will expand on the advent of server-networks and not only provide more information on how they will work, but also the time frame for transition to such networks,

describe the "advent of server telephony" for which it is claimed that a small number of servers can serve an entire LATA compared to the "scores, if not hundreds, of switches [that] serve the voice and data markets [today]."

The server model uses loop carriers . . . as the distributed switching units. These loop carriers are modified with tone plant, ringing supply and new software. They are linked via SONET rings to the CO [Central Office], which now can be many miles distant to a server. The server manages call setup, applications and links to other networks.²⁵

It is recognized that the "[t]raditional switch manufacturers are not sitting still. . . . They believe the server world is at hand and plan to counterattack." A Nortel executive is quoted as saying that it will make its DMS (Class 5 switch) the server.²⁶ The article further points out that the real problem for traditional switch manufacturers is the software business. Indeed, as Mr. Tumolillo sees it, switch manufacturers are "really software companies because 70 percent of the cost of a switch is software development."

The Commission is urged to focus on this assertion as a telling one. In one observation, Mr. Tumolillo seems to have answered in full those who oppose regulation of Internet telephony service providers because they are "software companies." These self-styled "software

their potential impact on existing investments in circuit-switched (switched-based) networks and the economic impact on the companies with those investments and on the maintenance of quality of service by such companies if server-networks lead to stranded investment. A principal reason the Commission undertook regulation of cable television in 1966 was to avoid the economic impact on the over-the-air broadcast industry and the threat perceived to the public's right to "free-TV" service, (ironically a debate that some 30 years later has been regenerated in different form by the proposal to auction off the digital TV spectrum).

²⁵ Id.

²⁶ Id.

companies,” purveying “free long-distance service,” yet claiming not to be engaged in offering telecommunication services, are no different from today’s traditional switch manufacturers, except that the “software companies,” unlike traditional switch manufacturers, do not offer long distance call capability as a reason to buy their products. The difference is that traditional switch manufacturers sell their networking capability (switches, heavily dependent on software) to unaffiliated telephone carriers to use in providing services. The Internet telephony software purveyors have simply combined the networking capability (software) and the telephone service offering into one product.

Traditional switch manufacturers recoup software development costs through endless software upgrades - the generics on each of 10,000 class 5 switches. But the server model is predicated on an open interface to the operating system so that any application developer can provide software. Since “there are fewer servers needed . . . than class 5 switches,” the economics work against traditional switch manufacturers in a server world.²⁷

The article goes on to draw further parallels for the future and specifically for some of the issues presented by ACTA's petition. Citing the staggering amount of access charges paid over the past 11 years, (accounting for over 30% of all operating company revenues for the RBOCs), it is then pointed out that those charges paid by IXCs, with whom the RBOCs now wish to compete, paid \$61 billion more than the combined construction budgets of the RBOCs over that same 11 year period. With IXCs entering local exchange and LECs entering the IXC market, it's predicted that access charges will fall, eliminating not only the excess in payments, but enough to undercut and reduce even sustaining contributions to local network expansion. The fall in access

²⁷ Id. at 28.

charges is therefore seen as producing radical surgery on construction budgets and a concomitant drying up of equipment purchases and slowing or eliminating traditional schedules for plant expansion.

ACTA sees nothing wrong with the evolution of network from circuit switched to server switched. Indeed, ACTA is sure that as its members continue to study these developments, they will find ways to increase their competitiveness and lower prices for their services.

The problem, therefore, is not technological development in the network dynamic, but the ability to effectively manage the transition to that new dynamic if it will be the future in which networks communicate and provide communication services. For example, while it may well be true that the cross-entry of IXC's into LEC markets and vice versa will drive down access costs, there is no certainty how, when, or even if, this will occur. ACTA's concern about Internet telephony is that if ignored, it will skew a rational and fair evolution in networking in which small competitors are unevenly burdened with unfair competition and suffer the loss of their revenues, customers and business while the transition is slowly meandering through torturous regulatory proceedings and debilitating litigation -- processes whose length and cost can well be tolerated by the larger carriers, but not the smaller ones which comprise ACTA's membership. If the Commission is serious about carrying out Congress's mandate that competition must drive the new telecommunications marketplace, then it must ensure that Internet telephony will foster, not stifle, such competition.

III. ARGUMENT

A. **THOSE WHO HOLD THEMSELVES OUT AS PROVIDERS OF VOICE TRANSMISSION SERVICES OVER THE INTERNET ARE ENGAGED IN OFFERING TELECOMMUNICATIONS SERVICES AND MUST, AS A MATTER OF LAW, BE REGULATED ACCORDINGLY.**

1. **Internet Phone Providers Offer Telephone Service.**

ACTA contends that those who sell, market and advertise the ability to place telephone calls over the Internet are provisioning in the same telecommunications service subject to federal and state regulations as ACTA's members and the rest of the interexchange carrier community. By the same standard, ACTA maintains that providers of voice and data telephony over the Internet²⁸ not only should be, but already are included in the broad universe of "telecommunications service" providers as defined by statute. The 1996 Act²⁹ defines "telecommunications carrier" broadly to include "any provider of telecommunications services," and "telecommunications service" as "the offering of telecommunications for a fee directly to the public."³⁰ The 1996 Act plainly includes a wide spectrum of service providers in its definition of "telecommunications carrier" including, but not limited to: LECs, IXC's, competitive access providers ("CAPs"), commercial mobile radio service ("CMRS") providers (e.g., cellular

²⁸ The basic technology used to transmit voice communications over the Internet, "packet switching," has been in use for decades. See In the Matter of the Application of Packet Communications, Inc., 43 FCC 2d 922 (1973). Accordingly, the Commission has regulated basic communications services transmitted via this technology for some time. Id.; see also In the Matter of American Telephone and Telegraph Co., 91 FCC 2d 1 (1982).

²⁹ Pub. L. No. 104-104, 110 Stat. 56 (1996), to be codified at 47 U.S.C. §§ 151 et. seq. ("1996 Act"). ACTA will refer to the provisions of the 1996 Act using the section citations of the bill.

³⁰ 1996 Act, Sections 3(a)(2)(49), (51).

telephone and paging service providers), personal communications service ("PCS") providers, and all resellers of such services.

Not only are Internet telephone service providers ("ITSPs") "telecommunications carriers" under the broad definitions of the new law, but they qualify as "common carriers" under the Telecommunications Act of 1934³¹ as defined by the courts and the Commission as well:

'The fundamental concept of a communications common carrier is that such a carrier makes a public offering to provide, for hire, facilities by wire or radio whereby all members of the public who choose to employ such facilities may communicate or transmit intelligence of their own design and choosing' Report and Order, *Industrial Radiolocation Service*, Docket No. 16106, 5 F.C.C.2d 197, 202 (5 October 1966).

This does not mean a given carrier's services must practically be available to the entire public. One may be a common carrier though the nature of the service rendered is sufficiently specialized as to be of possible use to only a fraction of the total population. And business may be turned away either because it is not of the type normally accepted or because the carrier's capacity has been exhausted. But a carrier will not be a common carrier where its practice is to make individualized decisions, in particular cases, whether and in what terms to deal. **It is not necessary that a carrier be required to serve all indiscriminately; it is enough that its practice is, in fact, to do so**

This requirement, **that to be a common carrier one must hold oneself out indiscriminately to the clientele one is suited to serve**, is supported by common sense as well as case law. . . .

The common law requirement of holding oneself out to serve the public indiscriminately draws such a logical and sensible line between [private and common] carriers.

National Association of Regulatory Utility Commissioners v. Federal Communications

³¹ 47 U.S.C. §§ 151 et seq. prior to enactment of 1996 Act ("1934 Act").

Commission, 525 F.2d 630, 641-642 (D.C. Cir. 1976) (emphasis added) ("NARUC I"). ITSPs hold themselves out to the public as offering long distance telecommunications services as part of bundle of services which may include software, online services, etc. (See Exhibit 1). These entities use the Internet to provide real-time, two-way telephone services to their customers. Services offered by ITSPs are indistinguishable from conventional long distance telephony. Generally, ITSP long distance services are provided only after the purchase of software (or an online service that provides such software in an integrated "point-and-click" fashion) that enables a personal computer to act as a voice telephone with the backbone transport facilities of the Internet performing the essential function of completing the origination and termination of long distance voice communications.³² Other than enabling a PC to act as a telephone, the enabling software serves no other function. In short, the end-user seeks telephone services and the ITSP offers it. But regardless of the state of the art, ITSPs are holding themselves out to the public as providing communications services and thus are "common carriers." See NARUC I, 525 F.2d at 641, 642.

Even an entity that does not provide **any** of the facilities over which a telephone call travels, such as a switchless reseller, is regulated as a "common carrier" by the Commission. "[A] common carrier is one which undertakes indifferently to provide communications service to the public for hire, regardless of the actual ownership or operation of the facilities involved."

American Telephone and Telegraph Company v. Federal Communications Commission, 572

³² With online Internet service providers ("ISPs") such as America Online, PSI Net, Microsoft Network and Netscape integrating seamless "point-and-click" Internet telephony services, the need to purchase extrinsic (stand alone) software to make a telephone call has been all but eliminated. (See Exhibit 1)

F.2d 17, 24 (D.C. Cir. 1978). Switchlees resellers use none of their own equipment to provide end-users with long distance services. They neither own nor provide any facilities of any kind, not even enabling software. Nonetheless, resellers are "common carriers" and are subject to the obligations and duties of common carriers. *Id.* The determining factor of an entity's status as a regulated carrier is not the physical facilities it uses in its operation, but what capability is offered to the public by virtue of such operations. *Id.* ITSPs are carriers because they overtly offer long distance telephone service as an inseparable part of a bundled or packaged set of features and functionalities. These bundles happen to include software and some form of network access which provide long distance voice services to the public which, in turn, purchases these advertised packaged offerings. Because ITSPs do not offer their packages of software, access and calling capability for free, but for a fee, they are engaged in the offering of communications services for hire and have embraced the mantle of "common carrier" under the established definition; therefore, they and must be regulated as such.³³

2. Internet Telephony Is Basic Telephone Service And Should Be Regulated Accordingly.

The voice communications services offered by ITSPs are basic telephone services, not enhanced. Under the Commission's Rules, a service is considered enhanced if it is:

[O]ffered over common carrier transmission facilities used in interstate communications, which employ computer processing

³³ Similarly, ITSPs offer public, not private, services because they do not discriminate on a case-by-case basis. ITSPs advertise to the public and sell indiscriminately; that is, they do not negotiate contractual arrangements with each end user they target with their marketing efforts. Without question, ITSPs' services are offered to whomever pays the ITSP for the marketed service bundle. *See NARUC I*, 525 F.2d at 641, 642. Therefore, ITSPs are not "private carriers." *Id.*; *see also* 47 C.F.R. § 21.2.

applications that act on format, content, code, protocol or similar aspects of the subscriber's transmitted information; provide the subscriber additional, different, or restructured information; or involve subscriber interaction with stored information. Enhanced services are not regulated under title II of the Act.

47 C.F.R. § 64.702(a). As with any basic voice telephony service, Internet telephony does not perform any of the distinguishing functions of an enhanced service. Internet telephony: 1) does not act on the subscriber's transmitted information; 2) does not provide the subscriber additional, different or restructured information, and 3) does not involve subscriber interaction with stored information. Telephony over the Internet is basic service because it offers "pure transmission capability over a communication path that is virtually transparent in terms of its interaction with customer supplied information." See Amendment of Section 64.702 of the Commission's Rules and Regulations, Second Computer Inquiry, Report and Order, 77 FCC2d 384, 420 (1980); see also Amendment of Section 64.702 of the Commission's Rules and Regulations, Second Computer Inquiry, 84 FCC2d 50, 54 (1980) ("Computer II").

Additionally, the Commission must consider whether the services "are dependent upon the availability of common carrier facilities" and whether the "end product" is "the offering of a common carrier communications service." Computer II, 84 FCC2d at 54. In short, ITSPs are basic telephone service providers because: 1) Internet telephony is nothing more than the offering of an alternate "transmission pipeline" rather than "the myriad services that are dependent upon, but different in kind, from the pipeline service"; and 2) the ITSPs are offering a voice telephony/software bundle or a point-and-click telephony service where the "end product"³⁴ is

³⁴ When deciding the issue of regulating Internet telephony as a basic service, the Commission should remember the "External/Internal Protocol" test it relied on in the Computer

"the offering of a common carrier communication service." Id. Under this analysis, as established by the Commission, only services other than real-time, two-way voice and data telephony offered by ISPs are enhanced services and only because they offer something more than a "common carrier channel of communication." Id. at 55.

The argument that voice telephony over the Internet may not be a basic service runs directly counter to the public interest. Public interest factors and established precedent clearly indicate that Internet telephony would also classify as an "adjunct to basic" service as outlined in the Commission's NATA³⁵ decision. In that case, the Commission clarified and extended its definitions of basic and enhanced services by defining certain services as "adjunct to basic" when they do "not alter the fundamental character of telephone service" but "facilitate use of the basic

II case. The Commission held:

In a basic service, while various conversions may take place within the network, the result of the common carrier offering is not a change in protocol. For example, if information enters a carrier's network on protocol 'A', it must exit the network on the same protocol, even though within the network it could be converted to 'x', 'y' or 'z' protocols for network traffic management or security purposes. Nor does our prohibition prevent multiplexing of protocol 'A' for output. . . . [T]he offering of code and protocol conversion capabilities external to the carrier's network transmission function is an enhanced service.

Computer II, 84 FCC2d at 60. Voice communications over the Internet may be converted into a variety of protocols, and are multiplexed. Voice telephony conversion software is but one link in the chain of conversions needed to produce voice communications at the end of the transmission pipeline. Therefore, voice telephony conversion software is internal to the transmission function and is part of its provisioning of basic service.

³⁵ In the Matter of North American Telecommunications Association, 101 FCC2d 349 (1985).

network" See NATA, 101 FCC2d at 360-361.³⁶ The Commission therefore established its regulatory authority over "adjunct to basic services."

The Commission has jurisdiction to regulate ITSPs even if the provisioning of Internet telephony services were considered as an enhanced service (which it clearly is not). The Commission has asserted its jurisdiction to regulate the provisioning of enhanced services and courts have agreed with that assertion. The Second Circuit has held that the Commission has jurisdiction to regulate a common carrier's provisioning of enhanced services because the provision of such services may affect Title II regulated services. GTE Service Corp. v. FCC, 474 F.2d 724, 739 (2d Cir. 1973) ("GTE"). Far more importantly, and central to the proper consideration of the issues involved, the Commission has held that even enhanced service providers can and should be regulated when such activities "'may substantially affect the efficient provision of reasonably priced communications service.'" Computer II, 84 FCC2d at 93 (quoting GTE, 474 F.2d at 739).

ACTA submits therefore that the Commission has long recognized that the rationale underlying the non-regulation of enhanced services is limited. That limitation comes into play here. Enhanced services must lose their favored position of being unregulated whenever it

³⁶ The Commission laid the groundwork for the NATA test in Computer II when it asked:

[F]irst . . . whether the proposed services fall within the transmission pipeline concept which we have described as basic service. . . . [S]econd . . . whether the proposed services, even if enhanced, cannot be offered apart from integration within the communications network which provides basic service.

Computer II, 84 FCC2d at 54.

becomes necessary to protect "efficient telephone service to the public by eliminating the possibility of a diversion of [common carrier] facilities to other purposes.'" *Id.* at 94 (quoting *GTE*, 474 F.2d at 732). As discussed below, the proliferation of unregulated voice and data common carriage over the Internet will adversely affect universal service, local and long distance infrastructures, and the facilities that comprise the Internet itself. Accordingly, when the possibility is considered that voice telephony over the Internet may not constitute basic service or act as an adjunct to basic service, for the reasons described below, it becomes immediately clear that such a possibility would not serve the public interest.

B. PROVIDERS OF VOICE AND DATA TELEPHONY OVER THE INTERNET SHOULD CONTRIBUTE TO UNIVERSAL SERVICE.

The Commission's fundamental responsibility is to ensure the provisioning of efficient and economic telephone service to "all people of the United States."³⁷ ACTA maintains that the provisioning of basic services over the traditional telephone infrastructure by telecommunications carriers who do not contribute to universal service or the maintenance of the infrastructure is not in the public interest and runs counter to the fundamental tenants of the 1934 Act and over 60 years of implementing Commission policy.

Under the 1996 Act, Congress expanded the Commission's duty to effectively promote the long-established goals of universal service.³⁸ The 1996 Act further expands the category of

³⁷ 47 U.S.C. § 1.

³⁸ The 1996 Act defines universal service as "an evolving level of telecommunications services that the Commission shall establish periodically under this section, taking into account advances in telecommunications and information technologies and services." 1996 Act at § 254(c).

telecommunications service providers which must contribute to helping Congress and the FCC achieve these goals. The new law requires that, “[e]very telecommunications carrier that provides interstate telecommunications services shall contribute, on an equitable and nondiscriminatory basis, to the specific, predictable, and sufficient mechanisms established by the Commission to preserve and advance universal service.”³⁹ Therefore, LECs, IXCs, CAPs, CMRS providers, PCS providers, and all resellers of such services must contribute to universal service. Having held themselves out as and acted like providers of telecommunications services, ITSPs are no exception nor can they be held to be entitled to any exception.

The Commission also has the power to require “any other provider of interstate telecommunications . . . to contribute to the preservation and advancement of universal service if the public interest so requires.”⁴⁰ ACTA maintains that Congress mandated universal service contributions from ITSPs and ESPs. Put simply, ITSPs use the traditional telephone infrastructure to sell their wares, which includes the transmission of voice telecommunications messages between Internet users.⁴¹ In doing so, ITSPs are like any other telecommunications carrier, and have an obligation to maintain the telephone infrastructure (which supports the provisioning of their services) thus maintaining and expanding universal service.

³⁹ 1996 Act at § 254(d). The Commission may exempt a “carrier or class of carriers” only if “the level of such carrier’s contribution to the preservation and advancement of universal service would be *de minimis*.” *Id.*

⁴⁰ *Id.*

⁴¹ Computer II, 84 FCC2d at 98.